

Storage Fungal Diseases

Black mold (*Aspergillus niger*), Blue mold (*Penicillium* species), Gray mold or neck rot (*Botrytis* species), Fusarium rot (*Fusarium oxysporum* f. sp. *cepae*)



FIGURE 1



FIGURE 2



FIGURE 3

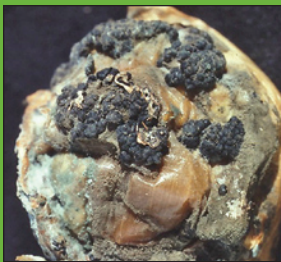


FIGURE 4



FIGURE 5



FIGURE 6

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COMMON HOSTS: Onion, Garlic

SYMPTOMS (ON ONION):

FIGURES 1 & 2 • Black mold develops as black discoloration (usually at the neck), shallow lesions on outer scales, streaks of black mycelium and conidia beneath the outer dry scales, and black discoloration in bruised areas. Bulbs usually do not rot, unless secondary bacterial infection occurs.

FIGURES 3 & 4 • Gray mold (neck rot) develops as a semi-watery decay, usually in the neck, that progresses down through the bulb. Fleshy scales soften and become water-soaked and translucent, with white to gray mycelium between scales. Gray to black sclerotia and gray mold may form on outer and inner scales.

FIGURE 5 • Blue mold first appears as pale yellow blemishes, watery soft spots, and occasionally purple-red stain on scales. A green to blue mold may develop on the surface of lesions, there may be a light tan or gray color on the fleshy scales, and bulbs may become tough (punky) with a musty odor.

FIGURE 6 • Fusarium basal rot starts in the field and can progress in storage from a dry basal plate rot to a dry rot of the fleshy scales.

FACTORS FAVORING:

- Black mold is favored by harvest and storage $>24^{\circ}\text{C}$ (75°F); blue and gray molds, and Fusarium basal rot are favored by lower temperatures.
- These diseases are favored by free moisture and high humidity ($>75\%$) during harvest and storage.
- These diseases are also favored by planting infected seed, transplants or sets; crop injury; and bruising of bulbs.

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ADDITIONAL RESOURCES AVAILABLE AT:

<http://onion.ipmpipe.org>

<http://wiki.bugwood.org/PIPE:Onion>

<http://www.apsnet.org/> — Compendium of Onion & Garlic Diseases and Pests, 2nd Ed.